

Docket No: K-0355

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF APPEALS AND INTERFERENCE

In re Application of

Confirmation No: 7276

Yong Hyun AN and Yi Sik CHAE

Group Art Unit: 2617

Serial No: 10/012,459

Examiner: Matthew C. Sams

Filed: December 12, 2001

Customer No: 34610

For: INFORMATION SERVICE SYSTEM AND OPERATION METHOD
THEREOF

APPEAL BRIEF

U.S. Patent and Trademark Office
Customer Window, Mail Stop Appeal Brief-Patents
Randolph Building
401 Dulany Street
Alexandria, Virginia 223134

Sir:

This Appeal Brief is submitted pursuant to the Notice of Appeal filed on October 22, 2007, in connection with the above-identified application.

REAL PARTY IN INTEREST

The real party in interest is LG Electronics Inc. by virtue of an Assignment recorded on December 12, 2001, at Reel/Frame 012370/0805.

RELATED APPEALS AND INTERFERENCES

No appeals or interferences are pending in connection with this application.

STATUS OF THE CLAIMS

Claims 1, 2, 4-6, 9-15, 19-22, 35-37, 39-44, 46-48, and 50 have been rejected at least twice and are the subjects of this appeal. Claims 3, 7, 8, 16-18, 23-34, 38, 45, and 49 have been canceled. A complete copy of the claims on appeal is set forth in the Claims Appendix attached to this paper.

STATUS OF AMENDMENTS

There is no status to report regarding the non-entry of any amendments. All amendments have been entered and the claims on appeal have been rejected at least twice, thereby making the appeal proper.

SUMMARY OF THE CLAIMED SUBJECT MATTER

Customers are usually informed of sales, discounts, and product promotions through mail or the newspaper or by physically visiting a shopping mall or department store. Improvements have been made of late. For example, now merchants may send e-mails to customers regarding sales or promotional event or this information may be posted on the merchant's website.

None of these forms of advertising, however, helps to provide real-time information to customers who, for example, may be traveling near a store or who otherwise may not be in a position to know of a potential sale of interest. The claimed invention satisfies these and other objectives and therefore represents a significant improvement in the art.

Independent Claim 1

Claim 1 recites an information service system that includes a database server, data transmission server, and operation server. The database server (e.g., 110) receives and stores information on a plurality of different shops within a building. The data transmission server (e.g., 120) automatically radio-transmits a first type of information, including the information on the shops, to the customer's mobile terminal (e.g., 200) when the customer enters the building. The operation server (e.g., 130) controls the database and data transmission servers. (See, e.g., Paragraphs [26] and [32]-[35] and Figures 1 and 3).

The system also includes a sudden information data transmission device (e.g., any of 140) for the shops. This device is coupled to control terminals in the shops and is installed within a predetermined area different from the location of the data transmission server. In operation, the sudden information data transmission device radio-transmits a second type of information including sudden event information to the customer's mobile terminal when a sudden event is generated by one of the shops. The sudden event information is transmitted while the customer

is within a range of the sudden information data transmission device where reception by the mobile terminal is possible. (See, e.g., Paragraphs [27], [36]-[38], and [52] and Figures 1-3).

In addition to these features, claim 1 recites that the first type of information is transmitted at different times and through different wireless transmission links than the second type of information. (Compare, e.g., Paragraphs [31]-[35] to Paragraphs [36]-[38] and see Figures 1-5).

Further, and importantly, claim 5 further recites **(1)** “the operation server continuously receives information derived from reception by a mobile communication network of a pilot signal from the customer’s mobile terminal to confirm a location of the customer within the building” (see, e.g., Paragraph [50] and [51] and Figure 5), and **(2)** “said confirmation serving as a pre-condition to transmitting the sudden information to the customer’s mobile terminal” (see, Paragraphs [44]-[49] and [50] and Figures 4A, 4B, and 5).

Dependent Claims 47-49

Dependent claim 47 recites that the data transmission server “automatically radio-transmits the first type of information in response to a customer request for the first type of information.” (See, e.g., Paragraph [31]).

Dependent claim 48 recites that “the customer request is made based on the customer’s manipulation of the mobile terminal or the data transmission server.” (See, e.g., Paragraph [31]).

Dependent claim 49 recites that “said request is generated based on customer manipulation of the mobile terminal of the customer or a data transmission server in the building.” (See, e.g., Paragraph [31]).

The remaining claims which depend from claim 1 have not been separately argued and therefore a summary of the subject matter therein has not been provided.

Independent Claim 12

Claim 12 recites a method of operating an information service system. The method includes determining whether a potential customer enters a building that includes a plurality of shops, obtaining general information about a product of a vendor corresponding to one of the shops from a database server (e.g., 110), and automatically transmitting the general information between a data transmission server (e.g., 120) and a customer’s mobile terminal (e.g., 200) when the potential customer enters the building. (See, e.g., Paragraphs [26] and [31]-[35] and Figures 1 and 3).

The sudden event information is received from a network of a specified vendor, if a sudden event is generated by the specified vendor. The received event information is then registered in the database server, and the sudden event information is radio-transmitted from a sudden information data transmission device (e.g., 140) to the customer’s mobile terminal. The sudden information data transmission device is coupled to a control terminal in the vendor’s

shop and is located in an area different from the data transmission server. (See, e.g., Paragraphs [27], [36]-[38], and [52] and Figures 1-3).

In addition, claim 12 recites that the sudden event information is transmitted when the customer is located within a range of said sudden information data transmission device where reception by the mobile terminal is possible (see, e.g., Paragraphs [27], [36]-[38], and [52] and Figures 1-3), and that the sudden event information is transmitted at different times and through different wireless links than the general information (compare, e.g., Paragraphs [31]-[35] to Paragraphs [36]-[38] and see Figures 1-5).

Finally, and importantly, claim 12 recites **(1)** “continuously receiving information derived from reception by a mobile communication network of a pilot signal from the customer’s terminal to confirm a location of the customer within the building” (see, e.g., Paragraph [50] and [51] and Figure 5), **(2)** “said confirmation serving as a pre-condition to transmitting the sudden information to the customer’s terminal” (see, Paragraphs [44]-[49] and [50] and Figures 4A, 4B, and 5).

The claims which depend from claim 12 have not been separately argued and therefore a summary of the subject matter therein has not been provided.

Independent Claim 22

Claim 22 recites a method of operating an information service system. The method includes confirming entry of a customer into a building containing a plurality of shops, automatically obtaining information from a mobile terminal (e.g., 200) of the customer regarding the mobile terminal when the customer enters the building, and registering the obtained information in a database server (e.g., 110). See, e.g., Paragraphs [26] and [31]-[36] and Figures 1 and 3.

After a waiting period, sudden event information is received from a vendor in the building. The sudden event information is transmitted to the customer's mobile terminal, in the building, when the sudden event arrives from the vendor. The sudden event information is radio-transmitted to the customer's mobile terminal, located within a range where reception by the mobile terminal is possible, by controlling a respective sudden information data transmission section installed within the building. (See Paragraphs [27], [36]-[38], and [52] and Figures 1-3).

The sudden event information is transmitted to indicate a sudden sale occurring in the building. The sudden event information is transmitted over different wireless links than planned event or basic information are transmitted to the customer's mobile terminal. (See, e.g., Paragraph [36] and compare, Paragraphs [31]-[35] to Paragraphs [36]-[38] and see Figures 1-5).

In addition, and importantly, claim 22 further recites **(1)** “continuously receiving information derived from reception by a mobile communication network of a pilot signal from the customer's mobile terminal to confirm a location of the customer within the building (see,

e.g., Paragraph [50] and [51] and Figure 5), (2) said confirmation serving as a pre-condition to transmitting the sudden information to the customer's mobile terminal (see, Paragraphs [44]-[49] and [50] and Figures 4A, 4B, and 5).

The claims which depend from claim 22 have not been separately argued and therefore a summary of the subject matter therein has not been provided.

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1, 2, 4-6, 9-15, 19-22, 35-37, 39-45, and 47-50 stand rejected under 35 USC § 103(a) for being obvious in view of the Shteyn patent (USP 6,782,253) taken in combination with the Johnson patent (USP 6,456,234).

ARGUMENT

Appellants submit that the rejections in the Office Action issued on July 27, 2007, are improper for the following reasons.

Independent Claim 1

In the system of claim 1, the sudden information data transmission device radio-transmits a second type of information including sudden event information to a customer's mobile terminal when a sudden event is generated by one of plurality of shops in a building.

In connection with this function, claim 1 further recites that the operation server performs the functions of:

- 1) “continuously receiving information derived from reception by a mobile communication network of a pilot signal from the customer’s terminal to confirm a location of the customer within the building,
- 2) said confirmation serving as a pre-condition to transmitting the sudden information to the customer’s terminal.”

In order to establish a *prima facie* case of obviousness for claim 1, features 1) and 2) must be taught or suggested by the combination of the Shteyn and Johnson patents. These features are not taught or suggested by the Shteyn and Johnson patents, whether taken alone or in combination.

The Shteyn patent discloses transmitting information on a variety of shops in a mall to a customer’s mobile terminal when the customer walks into the mall. (See column 7, lines 42-45, and column 8, lines 12-18). The information is transmitted by beacons (402, 404, etc. in Fig. 4) located throughout the mall. When the customer’s terminal comes into range within one of the beacons, that beacon transmits information on sales in specific stores. (See column 3, lines 3-15).

The beacons of Shteyn are wirelessly coupled to a server 410. The beacons are passive devices that transmit information (in a facilitation signals) either unconditionally or based on whether information in a user profile stored in the customer’s terminal matches the store information to be transmitted. (See column 3, lines 3-15). As passive beacons, the Shteyn system

does not take any steps to determine whether a customer's mobile terminal is within range of one of its beacons.

Rather, when a customer's mobile terminal comes within range of one of the beacons, the customer terminal merely receives a facilitation signal from the beacon. The facilitation signal may include information on shops in the area or how information on those shops may be obtained from the internet. However, neither the beacon nor server 410 takes any steps to determine the location of the customer's terminal or whether the customer's terminal is within range of one of the beacons. (See column 3, lines 1-15; column 6, lines 17-26; column 7, lines 38-45; and column 8, lines 12-26).

Thus, unlike claim 1, Shteyn does not teach or suggest that any of its beacons, or server 410 for that matter, performs the functions of the operation server of claim 1, which functions include "continuously receiving information derived from reception by a mobile communication network of a pilot signal from the customer's terminal to confirm a location of the customer within the building." (Emphasis added). The operation server is also required to control the database server and the data transmission server as recited in claim 1. The Shteyn patent does not teach or suggest these features.

Claim 1 further recites that confirmation of the customer's location within the building, which is based on the operation server received a pilot signal from the customer's terminal through a mobile communication network, serves as "a pre-condition to transmitting the sudden information to the customer's terminal." The Shteyn patent does not teach or suggest these

features. Rather, as previously indicated, the beacons of Shteyn transmit information on shops in the mall either unconditionally (e.g., continuously) or based on a customer profile check. (See column 3, lines 3-15). Shteyn does not teach or suggest transmitting sudden information to a customer terminal based on the pre-condition stated in claim 1.

The Johnson patent discloses determining the location of a mobile terminal in a grocery store based on a triangulation method. However, claim 1 recites confirming the location of a customer's mobile terminal within the building by "continuously receiving information derived from reception by a mobile communication network of a pilot signal from the customer's terminal." The triangulation method of Johnson does not taken into consideration a pilot signal received by a mobile communication network as a basis for confirming the location of a customer terminal.

In spite of this lack of teaching, the Examiner stated on page 2 of the Office Action dated July 27, 2007, that Johnson is designed to communicate and receive signals and provide location-dependent information for many devices using triangulation. But, the use of triangulation further highlights the differences between the claimed invention and Johnson. As those skilled in the art can appreciate, triangulation is performed based on the timing of signals transmitted by three beacons. Based on these timings and their relative distances, the location of the terminal is determined. However, the triangulation method does not relate in any way to determining the location of a customer terminal based on reception by a mobile communication network of a pilot signal transmitted from the customer terminal, as recited in claim 1.

At page 2 of the Office Action, the Examiner cited Paragraph [31] of the Tricario patent publication. Paragraph [31] merely states that it is known to transmit a continuous tone from a mobile terminal, to allow surrounding beacons or base stations to determine the position of the terminal. However, even Tricario does not teach or suggest “continuously receiving information derived from reception by a mobile communication network of a pilot signal from the customer’s terminal to confirm a location of the customer within the building, said confirmation serving as a pre-condition to transmitting the sudden information to the customer’s terminal.”

Further, at page 2, the Examiner further stated that the Johnson system “obviously provides the ability to receive a signal from a mobile continuously.” However, this statement is not supported by the recitation of a disclosure in any reference or by any other objective basis. Rather, the Examiner must rely on some objective basis for establishing a *prima facie* case of obviousness that is not just based on mere conjecture, unsupported statements, or the capability of a system to perform a recited function. Absent some objective basis of obviousness, Appellants submit that the rejection of claim 1 under § 103(a) cannot properly stand.

For the foregoing reasons, Appellants submit that the § 103(a) rejection of claim 1 and its dependent claims is improper and should be reversed.

Dependent Claims 47-49

Dependent claim 47 recites that the data transmission server “automatically radio-transmits the first type of information in response to a customer request for the first type of information.” These features are not taught or suggested by the Shteyn patent.

Shteyn discloses that beacons 402-408 are passive devices that transmit facilitation signals to customer terminals in a mall. Each of the beacons transmits this information either constantly or based on information contained in a customer profile. The Shteyn patent does not teach or suggest that the beacons transmit information on shops conditionally in response to a customer request as required by claim 47.

Johnson also fails to teach or suggest these features. In rejecting claim 47, the Examiner relied on the disclosure of User Event Management described at column 17, lines 11-24. Here, Johnson discloses transmitting information to a user in response to a user request. However, the Johnson patent does not teach or suggest the features of claim 47 in the context of claim 1, where “the first type of information” is automatically transmitted “in response to a customer request for the first type of information.”

Claim 48 recites that “the customer request is made based on the customer’s manipulation of the mobile terminal or the data transmission server.” Shteyn does not teach or suggest these features for the same reasons as noted above, and neither does Johnson. Johnson discloses transmitting information in response to a user request, but not based on a customer’s manipulation of a mobile terminal or data transmission server.

Claim 49 recites that “said request is generated based on customer manipulation of the mobile terminal of the customer or a data transmission server in the building.” These features are not taught or suggested by Shteyn and Johnson, whether taken alone or in combination.

Independent Claim 12

Claim 12 recites (1) continuously receiving information derived from reception by a mobile communication network of a pilot signal from the customer’s terminal to confirm a location of the customer within the building, (2) said confirmation serving as a pre-condition to transmitting the sudden information to the customer’s terminal. These features are similar to those which patentably distinguish claim 1 from the Shteyn and Johnson patent. Accordingly, for similar reasons, it is submitted that claim 12 and its dependent claims are not rendered obvious by a combination of these patents.


Independent Claim 22

Claim 22 recites (1) continuously receiving information derived from reception by a mobile communication network of a pilot signal from the customer’s mobile terminal to confirm a location of the customer within the building, (2) said confirmation serving as a pre-condition to transmitting the sudden information to the customer’s mobile terminal. These features are similar to those which patentably distinguish claim 1 from the Shteyn and Johnson

patent. Accordingly, for similar reasons, it is submitted that claim 22 and its dependent claims are not rendered obvious by a combination of these patents.

For the foregoing reasons, Appellants respectfully request the Board to reverse the rejections in the outstanding Office Action.

Respectfully submitted,
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CLAIMS APPENDIX

1. An information service system, comprising:

a database server that receives and stores information on a plurality of different shops within a building;

a data transmission server at a prescribed location that communicates with a customer's mobile terminal and automatically radio-transmits a first type of information including the information on the shops to the customer's mobile terminal when the customer enters the building;

an operation server that controls the database server and the data transmission server; and

a sudden information data transmission device provided for the shops,

wherein the sudden information data transmission device is coupled to control terminals in the shops, is installed within a predetermined area different from the prescribed location of the data transmission server, and radio-transmits a second type of information including sudden event information to the customer's mobile terminal when a sudden event is generated by one of the shops, the sudden event information transmitted while the customer is within a range of said sudden information data transmission device where reception by the mobile terminal is possible,

wherein the first type of information is transmitted at different times and through different wireless transmission links than the second type of information, and

wherein the operation server continuously receives information derived from reception by a mobile communication network of a pilot signal from the customer's mobile terminal to confirm a location of the customer within the building, said confirmation serving as a pre-condition to transmitting the sudden information to the customer's mobile terminal.

2. The system of claim 1, wherein a radio data transmitter/receiver is installed in the data transmission server and the customer's mobile terminal, respectively, for a mutual radio data transmission/reception.

4. The system of claim 1, wherein the sudden information data transmission device communicates by a short-distance radio transmission.

5. The system of claim 1, wherein a radio data transmitter/receiver is installed in the sudden information data transmission device to support the radio transmission.

6. The system of claim 1, wherein the prescribed location is within the building.

9. The system of claim 1, wherein the data transmission server communicates directly with the customer's mobile terminal.

10. The system of claim 1, wherein the data transmission server communicates indirectly with the customer's mobile terminal.

11. The system of claim 10, wherein the data transmission server communicates with the customer's mobile terminal through a third-party wireless communication gateway.

12. A method of operating an information service system, comprising:

- determining whether a potential customer enters a building that includes a plurality of shops;
- obtaining general information about a product of a vendor corresponding to one of the shops from a database server;
- automatically transmitting the general information between a data transmission server and a customer's mobile terminal when the potential customer enters the building;
- receiving sudden event information from a network of a specified vendor, if a sudden event is generated by the specified vendor; and
- registering the received event information in the database server and radio-transmitting the sudden event information from a sudden information data transmission device to the customer's mobile terminal, the sudden information data transmission device coupled to a control terminal in the vendor's shop and being located in an area different from the data transmission server, and

wherein the sudden event information is transmitted when the customer is located within a range of said sudden information data transmission device where reception by the mobile terminal is possible,

wherein the sudden event information is transmitted at different times and through different wireless links than the general information, the method further comprising:

continuously receiving information derived from reception by a mobile communication network of a pilot signal from the customer's terminal to confirm a location of the customer within the building, said confirmation serving as a pre-condition to transmitting the sudden information to the customer's terminal.

13. The method of claim 12, wherein the data transmission server transmits the general information to the mobile terminal by a wired or a radio medium.

14. The method of claim 12, further comprising
receiving customer information, regarding the mobile terminal, with the data transmission server while transmitting the general information to the mobile terminal.

15. The method of claim 14, wherein the customer information comprises at least one of a phone number of the mobile terminal and an Internet Protocol (IP) used by the mobile terminal.

19. The method of claim 12, wherein the data transmission server communicates directly with the customer's mobile terminal.

20. The method of claim 12, wherein the data transmission server communicates indirectly with the customer's mobile terminal.

21. The method of claim 20, wherein the data transmission server communicates with the customer's mobile terminal through a third-party wireless communication gateway.

22. A method of operating an information service system, comprising:
confirming entry of a customer into a building containing a plurality of shops;
automatically obtaining information from a mobile terminal of the customer regarding the mobile terminal when the customer enters the building, and registering the obtained information in a database server;
awaiting a sudden event from a vendor in the building; and
obtaining sudden event information and transmitting the obtained sudden event information to the customer's mobile terminal, in the building, when the sudden event arrives from the vendor,
wherein the sudden event information is radio-transmitted to the customer's mobile terminal, located within a range where reception by the mobile terminal is possible, by

controlling a respective sudden information data transmission section installed within the building,

wherein the sudden event information is transmitted to indicate a sudden sale occurring in the building, wherein the sudden event information is transmitted over different wireless links than planned event or basic information are transmitted to the customer's mobile terminal, and

wherein the method further includes continuously receiving information derived from reception by a mobile communication network of a pilot signal from the customer's mobile terminal to confirm a location of the customer within the building, said confirmation serving as a pre-condition to transmitting the sudden information to the customer's mobile terminal.

35. The system of claim 1, wherein the sudden event information includes a short-term discount selling or issuance of discount tickets.

36. The method of claim 12, wherein the sudden event information includes a short-term discount selling or issuance of discount tickets.

37. The method of claim 22, wherein the sudden event information includes a short-term discount selling or issuance of discount tickets.

39. The system of claim 1, wherein data transmission server is located at an entrance into the building.

40. The system of claim 1, wherein the database server receives a selection signal from a store manager indicating a type of said stored information.

41. The system of claim 40, wherein the stored information is basic information or event information of the store.

42. The system of claim 1, wherein the first and second types of information are transmitted through different wireless links which conform to a same short-range communication protocol.

43. The system of claim 42, wherein the mobile terminal includes a wireless communications port for receiving the first and second types of information through the different links and an antenna for receiving calls from a mobile communication network.

44. The system of claim 43, wherein the short-range communication protocol is a Bluetooth protocol or an infrared (IR) protocol.

46. The system of claim 1, wherein the mobile terminal is a mobile phone.

47. The system of claim 1, wherein the data transmission server automatically radio-transmits the first type of information in response to a customer request for the first type of information.

48. The system of claim 47, wherein the customer request is made based on the customer's manipulation of the mobile terminal or the data transmission server.

50. The system of claim 1, wherein the sudden information includes a sudden promotional or sale event beginning in one of the shops, and wherein transmission of the sudden information is initiated after a confirmation has been performed indicating that the customer has entered and is still located in the building.

EVIDENCE APPENDIX

Appellant has not provided or relied on any evidence in connection with this appeal and therefore there is no evidence to submit or discuss in this appendix.

RELATED PROCEEDINGS APPENDIX

No decisions by a court or the Board have been rendered in connection with this or any related application, or in connection with any proceeding identified in the related appeals and interferences section. Therefore, there are not copies to submit in connection with this appendix.